

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

ORDER NO. R5-2004-\_\_\_\_\_

NPDES NO. CA 0083143

WASTE DISCHARGE REQUIREMENTS  
FOR  
SOUTH FEATHER WATER AND POWER AGENCY  
MINERS RANCH WATER TREATMENT PLANT  
BUTTE COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter, the Regional Board) finds that:

1. The South Feather Water and Power Agency (formerly the Oroville Wyandotte Irrigation District) (hereafter, the Discharger) submitted an Application/Report of Waste Discharge, dated 23 September 2002, and applied to renew its permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from the Miners Ranch Water Treatment Plant located in Butte County.
2. The Discharger owns and operates a potable water treatment plant (Facility) with a design capacity of 14.4 million gallons per day (mgd) that provides treated water for domestic and agricultural purposes. The facility is located in Section 18, Township 19 North, and Range 5 East of the Mt. Diablo Base Line and Meridian on Assessor's Parcel No. 069-390-002 as shown on Attachment A, a part of this Order. Wastewaters generated from the Facility operation are treated and discharged at Discharge Point 001 at latitude 39° 31' 6" and longitude 121° 27' 30" to Miners Ranch Reservoir, which is tributary to the Feather River via the Kelly Ridge Tunnel and Penstock, both waters of the United States.
3. Most wastewater generated by the facility is filter backwash water that is routed to a settling basin. Clarified water from the settling basin is discharged to Miners Ranch Reservoir. Solids from flocculation/sedimentation steps are discharged directly to the sludge basin. Supernatant and underflow from the sludge basin is infrequently discharged to the effluent line from the settling basin, ahead of the outfall. Sludge is stockpiled on site prior to being taken to a landfill. The Facility has piping in place for filter-to-waste discharges, however, the Discharger has never used and does not intend to use this capability.
4. Based on metering of filter backwash flow, the Application/Report of Waste Discharge reports an average discharge flow rate, over 365 days per year, of 0.2 mgd from 1999 through 2003. Monitoring Reports from 1999 through 2003 characterize the discharge from the facility as follows.

	1999 <sup>a</sup>	2000	2001	2002 <sup>a</sup>	2003 <sup>a</sup>
<b>Flow<sup>b</sup> (mgd)</b>					
Monthly average based on discharging 365 days/year	0.17	0.19	0.19	0.25	0.20
Monthly average based on the number of days actually discharging	0.22	0.24	0.23	0.26	0.21
Daily maximum	0.60	0.57	0.53	0.71	0.43
<b>pH Range</b>	6.7 – 7.3	6.8 – 7.4	6.7 – 7.2	6.2 – 7.1	6.3 – 7.0
<b>Set. Solids (mL/L)</b>					
Monthly Avg.	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Monthly Max.	< 0.1	< 0.1	< 0.3	< 0.1	< 0.1
<b>Chlorine (mg/L)</b>					
Max.	0.14	0.05	1.0	ND	ND

<sup>a</sup> Does not take into account flow data from July and August 1999, April 2002, and September 2003.

<sup>b</sup> Filter backwash is measured and reported as effluent flow; however filters are not backwashed every day. For example, in June 1999, total backwash flow was 7.5 million gallons, and filters were backwashed on 26 days.

5. The water treatment plant lies within the Feather River Hydrologic Unit, Oroville Reservoir Hydrologic Sub Area (518.12), as depicted on interagency hydrologic maps prepared by the California Department of Water Resources (DWR) in August 1986. The mean annual rainfall in the area is approximately 30 inches, based on information from the U.S. Geological Survey and DWR.
6. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition*, (Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and describes an implementation program and policies to achieve water quality objectives for all waters of the Basin. This includes plans and policies adopted by the State Water Resources Control Board (SWRCB) and incorporated by reference, such as Resolution No. 68-16, “Statement of Policy with Respect to Maintaining High Quality of Waters in California” (Resolution No. 68-16). These requirements implement the Basin Plan. The Basin Plans, as amended, designate beneficial uses, establish water quality objectives, and contain implementation plans and policies for waters of the Basins. Pursuant to the California Water Code (CWC) Section 13263(a), waste discharge requirements must implement the Basin Plans.
7. The United States Environmental Protection Agency (U.S. EPA) adopted the *National Toxics Rule* (NTR) on 22 December 1992, which was amended on 4 May 1995 and 9 November 1999, and the *California Toxics Rule* (CTR) on 18 May 2000, which was amended on 13 February 2001. These Rules contain water quality standards applicable to this discharge. The State Water Resources Control Board (State Board) adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries*

*of California* (known as the State Implementation Policy or SIP) on 2 March 2000, which contains policies and procedures for implementation of the NTR and the CTR.

*RECEIVING WATER BENEFICIAL USES*

8. The Basin Plan on page II-1.00 states: "Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning..." and with respect to disposal of wastewaters states that "...disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses." The Basin Plan on page II-2.00 states that: "Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 and Table II-1. The beneficial uses of any specifically identified water body generally apply to its tributary streams." The beneficial uses of Miners Ranch Reservoir are not specifically identified in the Basin Plan. However, releases from Miners Ranch Reservoir via the Kelly Ridge Tunnel are tributary to the reach of the Feather River from the "fish barrier dam" below Lake Oroville to the Sacramento River (lower Feather River). The beneficial uses of the lower Feather River are specifically identified in the Basin Plan.
9. The Basin Plan identifies the following beneficial uses of the lower Feather River, to which Miners Ranch Reservoir is tributary: municipal and domestic supply; agricultural irrigation supply; water contact and non-contact recreation; warm and cold freshwater habitat; migration of warm and cold aquatic organisms; warm and cold spawning, reproduction, and/or early development; and wildlife habitat. In addition, State Board Resolution No. 88-63, incorporated into the Basin Plan pursuant to Regional Board Resolution No. 89-056, requires the Regional Board to assign the municipal and domestic supply use to water bodies that do not have beneficial uses listed in Table II-1.

The Discharger operates a hydropower facility that generates a significant quantity of electricity by utilizing water released from Miners Ranch Reservoir. Therefore, although the Basin Plan does not list specific beneficial uses for Miners Ranch Reservoir, and although hydropower generation is not listed as a beneficial use of the lower Feather River (to which Miners Ranch Reservoir is tributary), it is a beneficial use of Miners Ranch Reservoir.

10. Upon review of the flow conditions, habitat values, and beneficial uses of Miners Ranch Reservoir and the lower Feather River to which Miners Ranch Reservoir is tributary, the Regional Board finds that the beneficial uses identified in the Basin Plan for the lower Feather River, are applicable to Miners Ranch Reservoir, based upon the following facts:

*a. Municipal and Domestic Supply, Agricultural Supply*

The Discharger operates a municipal water treatment plant to provide potable water to its customers. The raw water source for the water treatment plant is Miners Ranch Reservoir. In addition to customers served by the water treatment plant, other domestic and agricultural supply customers receive untreated surface water diversions from Miners Ranch Reservoir. In

addition to the existing water uses, growth in the area is expected to continue, which presents a potential for increased municipal, domestic, and agricultural uses of the water in Miners Ranch Reservoir.

*b. Hydropower Generation*

The Discharger operates a hydropower facility that generates a significant quantity of electricity by utilizing water released from Miners Ranch Reservoir. Therefore, although the Basin Plan does not list specific beneficial uses for Miners Ranch Reservoir, and although hydropower generation is not listed as a beneficial use of the lower Feather River (to which Miners Ranch Reservoir is tributary), it is a beneficial use of Miners Ranch Reservoir.

*c. Water Contact and Non-Contact Recreation*

Although Miners Ranch Reservoir is not a public access lake, the Regional Board finds that the lower Feather River flows through rural and residential areas and that there is ready public access. Water contact and non-contact recreational activities exist and are likely to increase as the population in the area grows. Flow in the lower Feather River is supported, in part, by releases from Miners Ranch Reservoir. Water quality in the lower Feather River is affected by the quality of waters discharging to it, including discharges from Miners Ranch Reservoir.

*d. Warm and Cold Freshwater Habitat, Migration of Aquatic Organisms, Spawning, Reproduction, and/or Early Development, and Wildlife Habitat*

Although Miners Ranch Reservoir is not accessible to migrating aquatic organisms, releases of water from Miners Ranch Reservoir support beneficial uses in the lower Feather River. Water quality in the lower Feather River is affected by the quality of waters discharging to it, including discharges from Miners Ranch Reservoir. Warm and cold freshwater habitat, migration of aquatic organisms, spawning, reproduction, and/or early development, and wildlife habitat are beneficial uses that are highly sensitive to the quantity and quality of water present.

*GROUNDWATER*

11. The beneficial uses of groundwater, as identified in the Basin Plan, are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.

*REASONABLE POTENTIAL ANALYSIS AND EFFLUENT LIMITATIONS*

12. U.S. EPA regulations at 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. Besides water quality criteria contained in the CTR, applicable numerical and narrative water

quality objectives are contained in the Basin Plan. The SIP contains guidance on implementation of the CTR and for determining reasonable potential for CTR pollutants. To determine reasonable potential for non-CTR pollutants, the Regional Board relies on methodology presented in U.S. EPA's *Technical Support Document for Water Quality Based Toxics Control* (TSD) (EPA/505/2-90-001, 1991). For interpretation of narrative water quality objectives, the Regional Board also uses its *Compilation of Water Quality Goals* (2000) as a resource.

13. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.
14. Based on information submitted as part of the application, in studies, and as directed by monitoring and reporting programs, the Regional Board, using methodology described in Section 1.3 of the SIP, finds that the discharge does have a reasonable potential to cause or contribute to an in-stream excursion above applicable water quality standards for copper and chlorine. Effluent limitations for these constituents are included in this Order, as described below.

### ***Copper***

Based on information included in analytical laboratory results submitted by the Discharger, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above CTR water quality criteria for copper. The CTR includes hardness-dependent criteria for the protection of freshwater aquatic life for copper. Freshwater aquatic habitat is a beneficial use of the receiving water. U.S. EPA recommends conversion factors (translators) to translate dissolved concentrations of certain metals to total recoverable concentrations. The translator for copper in freshwater is 0.960 for both the acute and the chronic criteria. Using a water hardness of 19 mg/L as CaCO<sub>3</sub> (the lowest hardness value observed in the receiving water), the most stringent applicable water quality standards for copper are 2.2 and 2.8 ug/L (dissolved) based on the CTR chronic and acute criteria, respectively, for protection of aquatic life. In samples collected on 5 February 2002, copper (total recoverable) was measured at 1.0 ug/L in the receiving water and at 3.3 ug/L in the effluent. After applying the translator, the highest effluent water sample concentration exceeds the water quality criteria and therefore, effluent limitations are required. Determination of reasonable potential and calculation of effluent limits is further explained in the attached Information Sheet for this Order.

The effluent limitation for copper is a new requirement in this Order. Section 2.1 of the SIP provides that: "*Based on an existing discharger's request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.*" This Order also contains an interim, performance based, maximum daily effluent limit of 10 ug/L (total recoverable) for copper for discharges to

Miners Ranch Reservoir. This limit is based on maintaining the copper loading at the current level and was derived using the maximum observed effluent copper concentration. The interim limit will become effective only if the Discharger submits adequate justification for interim limits and a compliance schedule in accordance with requirements described in Section 2.1 of the SIP. If adequate justification is received, the final effluent limits will not become effective until 5 years after adoption of this Order, as described in this Order. If such justification is not submitted, final limits will become effective 90 days after the date this Order is adopted.

15. As stated in the findings, above, the U.S. EPA adopted the NTR and the CTR, which contain water quality standards applicable to this discharge, and the SIP contains guidance on implementation of the NTR and CTR. The SIP, Section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Board shall establish interim requirements and dates for their achievement in the NPDES permit. The interim limitations must: be based on current treatment plant performance or existing permit limitations, whichever is more stringent; include interim compliance dates separated by no more than one year; and be included in the Provisions.

The interim limits in this Order are based on the current treatment plant performance. In developing the interim limitation, where there are ten sampling data points or more, sampling and laboratory variability is accounted for by establishing interim limits that are based on normally distributed data where 99.9% of the data points will lie within 3.3 standard deviations of the mean (*Basic Statistical Methods for Engineers and Scientists, Kennedy and Neville, Harper and Row*). Therefore, the interim limitations would be established as the mean plus 3.3 standard deviations of the available data. If actual sampling showed an exceedance of the proposed 3.3-standard deviation interim limit, the maximum detected concentration would be established as the interim limitation. When there are fewer than ten sampling data points available (as is the case for this Order), the TSD recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than ten sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed sampling point to obtain the daily maximum interim limitation (*TSD, Table 5-2*). The Regional Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with NTR- and CTR-based effluent limitations cannot immediately be achieved in the existing discharge. Discharge of constituents in concentrations in excess of the final effluent limitations, but in compliance with the interim effluent limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. For example, U.S. EPA states in the Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life for copper, that it will take an unstressed system

approximately three years to recover from a pollutant in which exposure to copper exceeds the recommended criterion. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the final effluent limitations can be achieved.

This Order establishes an interim, performance based, maximum daily effluent limitation of 10 ug/L (3.3 ug/L x 3.11) for copper for discharges to Miners Ranch Reservoir.

**16. Compliance Schedule for Copper**

Section 2.1 of the SIP provides that: “Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may establish a compliance schedule in an NPDES permit.” Section 2.1 further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: “(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control and/or pollution minimization efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.” This Order requires the Discharger to provide this information for copper. Final water quality-based effluent limits for copper become effective 90 days after the date this Order is adopted if adequate justification for interim limits and a compliance schedule is not completed and submitted by the Discharger to the Regional Board. If adequate justification is submitted, the final water quality-based effluent limits for copper will become effective 5 years after the date this Order is adopted, as described in this Order.

**17. Chlorine**

The Basin Plan includes a narrative water quality objective for toxicity that requires all receiving waters to be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. To interpret narrative criteria, the Regional Board relies on its *Compilation of Water Quality Goals* (2000), which includes U.S. EPA recommended, chronic and acute criteria for chlorine for protection of aquatic life of 11 and 19 µg/L, respectively. Based on the Discharger’s use of chlorine for disinfection and on information included in discharge monitoring reports submitted by the Discharger, the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the narrative water quality objective of the Basin Plan for toxicity. Using methodology from the TSD, average monthly and maximum daily effluent limitations of 0.01 and 0.02 mg/L, respectively, are being established by this Order. Because the Discharger has been subject to a receiving water limitation, which prohibited detectable levels of chlorine in the receiving water, the Discharger is expected to be able to immediately comply with final effluent limitations for chlorine, and interim limits and a compliance schedule are not warranted and will not be established for chlorine.

18. The Discharger utilizes aluminum based coagulants in its operation. In the *Filter Backwash Recycling Rule Technical Guidance Manual* (EPA 816-R-02-014, December 2002), the U.S. EPA Office of Ground Water and Drinking Water has cited studies that report higher levels of aluminum, attributable to carryover from aluminum coagulants, in spent filter backwash than found in both raw waters and raw waters after chemical addition. The Basin Plan requires the Regional Board to consider information submitted by the Discharger and other interested parties, and numerical criteria and guidelines developed by other agencies and organizations, in determining what numeric limitations will properly implement the narrative toxicity objective. U.S. EPA developed National Recommended Ambient Water Quality Criteria for the Protection of Freshwater Aquatic Life for aluminum at 87 ug/L as a four-day average (chronic) and 750 ug/L as a one-hour average (acute). U.S. EPA's 2002 National Recommended Water Quality Criteria summary document notes that these criteria were developed at low hardness values. It also states that aluminum is substantially less toxic at higher hardness values, but the effects of hardness on the criteria are not well quantified at this time. In samples collected on 5 February 2002 by the Discharger, water hardness in Miners Ranch Reservoir was very low at 19 mg/L as CaCO<sub>3</sub>. Aluminum exists as aluminum silicate in suspended clay particles, which U.S. EPA acknowledges might be less toxic than other forms of aluminum. Correspondence with U.S. EPA indicates that the criterion is not intended to apply to aluminum silicate particles. Therefore, a monitoring method that excludes clay particles is likely to be more appropriate. The use of acid-soluble analysis for compliance with the aluminum criterion appears to satisfy U.S. EPA. Current monitoring data is insufficient to determine reasonable potential for aluminum. In accordance with California Water Code Section 13267, this Order establishes monitoring requirements for aluminum. If after review of the monitoring results it is determined that the discharge has reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and effluent limitations added for aluminum.
19. The Discharger discharges clean or relatively pollutant free waters from well development water, construction dewatering, pump/well testing, pipeline/tank pressure testing, pipeline/tank flushing or dewatering, condensate discharges, other water supply system discharges, and other miscellaneous dewatering/low threat discharges during its normal operation and maintenance activities. These discharges occur at multiple locations and at variable quantity and duration. These discharges are currently required to be regulated by Order No. 5-00-175, General Order for Dewatering and Other Low Threat Discharges to Surface Waters. This Order includes requirements regarding such discharges, and upon adoption of this Order, the Discharger does not need to seek coverage under the General Permit for Dewatering and Other Low Threat Discharges to Surface Waters for these discharges.
20. U.S. EPA promulgated regulations for storm water on 16 November 1990 in 40 CFR Parts 122, 123, and 124. The regulations define specific categories of industrial activities that are required to seek coverage under an NPDES permit for storm water discharges associated with industrial activity. If applicable, the Discharger shall seek coverage for discharges of storm water under State Water Resources Control Board Water Quality Order No. 97-03-DWQ



(NPDES General Permit No. CAS000001), Waste Discharges Requirements for Discharges of Storm Water Associated with Industrial Activities, or its revision/replacement.

21. The Discharger periodically removes sludge from the settling pond at the treatment plant site. This sludge must be properly characterized and disposed of in a timely manner. This Order requires that the Discharger to review its current Sludge Management and Disposal Plan, make necessary changes, and submit a copy to the Regional Board for the ongoing management of sludge, **within 6 months** of the date this Order is adopted.
22. The permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Resources Control Board Resolution 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.
23. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et seq.), requiring preparation of an environmental impact report or negative declaration in accordance with Section 13389 of the California Water Code.
24. This Order requires monitoring for the purposes of assessing compliance with permit limitations and water quality objectives and gathering information to evaluate the need for additional limitations.
25. Section 13267 of the California Water Code states, in part, “(a) A regional board, in establishing...waste discharge requirements... may investigate the quality of any waters of the state within its region” and “(b) (1) In conducting an investigation..., the regional board may require that any person who... discharges... waste...that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.” The attached Monitoring and Reporting Program is issued pursuant to California Water Code Section 13267.
26. The Discharger is currently regulated pursuant to Waste Discharge Requirements Order No. 98-063 (NPDES No. CA0083143), adopted by the Regional Board on 17 April 1998.
27. The U.S. EPA and the Regional Board have classified this discharge as a minor discharge.
28. The Regional Board has considered the information in the attached Information Sheet in developing the findings of this Order. The attached Information Sheet and Monitoring and Reporting Program and Attachments A and B, are all parts of this Order.

29. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
30. The Regional Board, in a public meeting, has heard and considered all comments pertaining to the discharge.
31. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect 10 days from the date of the final public hearing regarding this Order, provided U.S. EPA has no objections.

IT IS HEREBY ORDERED that Order No. 98-063 is rescinded and the South Feather Water and Power Agency, Miners Ranch Water Treatment Plant, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

**A. Discharge Prohibitions**

1. Discharge of wastewater and low threat discharges, at locations or in a manner different from that described by this Order is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13 [see attached *Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)*, February 2004].
3. The discharge of untreated wastes from water treatment operations to surface waters is prohibited.
4. The discharge of hazardous or toxic substances, which may include laboratory and water treatment chemicals, solvents, or petroleum products (including oil, grease, gasoline and diesel) to surface waters or groundwater is prohibited.
5. Discharge of hazardous waste, as defined at Title 23, Division 3, Chapter 15, Article 2, Section 2521 of the California Code of Regulations or designated waste, as defined at Section 13173 of the California Water Code, is prohibited.

## B. Effluent Limitations

1. Discharge 001
  - a. Effluent from Discharge 001 shall not exceed the following limits.

<u>Constituent</u>	<u>Units</u>	<u>AMEL<sup>c</sup></u> (30-Day Avg)	<u>MDEL<sup>f</sup></u> (Max Daily)
Settleable Solids	mL/L	0.1	0.2
Suspended Solids	mg/L	30	50
	lbs/day <sup>a</sup>	258	430
	lbs/day <sup>b</sup>	415	692
Chlorine	mg/L	0.01	0.02
	lbs/day <sup>a</sup>	0.09	0.17
	lbs/day <sup>b</sup>	0.14	0.28
Copper <sup>c</sup>	µg/L <sup>c</sup>	Variable based on water hardness. Must calculate. See Attachment B - Copper.	
	lbs/day <sup>a,c,d</sup>		
	lbs/day <sup>b,c,d</sup>		

<sup>a</sup> Based on a design flow through wastewater handling and treatment systems of 1.03 mgd.

<sup>b</sup> Based on a design flow through wastewater handling and treatment systems of 1.66 mgd, during the filter loading study period described in this Order. If the Department of Health Services (DHS) approves continued operation at the increased filter loading rates, these mass based limits will become permanently effective, when the Discharger provides written notice to the Regional Board of such DHS approval including the applicable conditions of approval.

<sup>c</sup> Final effluent limitations. Interim effluent limits may supercede, as described in this Order.

<sup>d</sup> To calculate lbs/day, multiply ug/L limit by 8.34, then multiply by the appropriate design flow (1.03 mgd or 1.66 mgd), then divide by 1000.

<sup>e</sup> AMEL means the highest allowable average of daily pollutant discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of measurements.

<sup>f</sup> MDEL means the highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period).

- b. The discharge shall not have a pH less than 6.0 nor greater than 9.0.
- c. Survival of aquatic organisms in 96-hour acute bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ----- 70%

Median for any three or more consecutive bioassays -- 90%
- d. The maximum daily discharge flow shall not exceed 1.03 million gallons, except during the filter loading rate study period when the maximum daily discharge flow shall not

exceed 1.66 mgd. If DHS approves continued operation at the increased filter loading rates of the study, the maximum daily flow rate shall become 1.66 mgd, when the Discharger provides written notice to the Regional Board of such DHS approval including the applicable conditions of approval.

2. Interim effluent limits are established for copper. This interim limit may supercede the final limit, above, as described in this Order. The effluent discharge from Discharge 001 shall not exceed the following interim limit:

<u>Constituent</u>	<u>Units</u>	<u>Max Daily</u>
Copper	ug/L	10

3. Low Threat Discharges

- a. Low threat discharges shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Daily Maximum</u>
Flow <sup>a</sup>	mgd			0.25
Total Suspended Solids	mg/L	10	15	30
Settleable Solids	mL/L			0.1

<sup>a</sup> If greater than four months in duration.

- b. Low threat discharges shall not contain chlorine in excess of 0.02 mg/L (instantaneous maximum).

### C. Receiving Water Limitations

Receiving water limitations are based upon water quality objectives contained in the Basin Plan, and as such, they are a required part of this permit.

The discharge shall not cause the following in the receiving water:

1. Concentrations of dissolved oxygen to fall below 7.0 mg/L. The monthly median of the mean daily dissolved oxygen concentration shall not fall below 85 percent of saturation in the main water mass, and the 95<sup>th</sup> percentile concentration shall not fall below 75 percent of saturation. The Discharger is not required to improve background dissolved oxygen conditions in the receiving water.
2. Oils, greases, waxes, or other materials in concentrations that cause nuisance, result in a visible film or coating on the water surface or on objects in the water, or otherwise adversely affect beneficial uses.

3. Discoloration that causes nuisance or adversely affects beneficial uses.
4. Ambient pH to be depressed below 6.5, nor raised above 8.5, nor changes in normal ambient pH levels to be exceeded by more than 0.5 units.
5. Biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
6. Floating material in amounts that cause nuisance or adversely affect beneficial uses.
7. Suspended sediment load and suspended sediment discharge rate altered in such a manner to cause nuisance or adversely affect beneficial uses.
8. Suspended sediment concentrations that cause nuisance or adversely affect beneficial uses.
9. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin or to cause nuisance or adversely affect beneficial uses.
10. The turbidity to increase as follows:
  - a. More than 1 Nephelometric Turbidity Units (NTUs) where natural turbidity is between 0 and 5 NTUs.
  - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
  - c. More than 10 NTUs where natural turbidity is between 50 and 100 NTUs.
  - d. More than 10 percent where natural turbidity is greater than 100 NTUs
11. The ambient temperature in the receiving water to increase more than 5° F above natural receiving water temperature.
12. Deposition of material that causes nuisance or adversely affects beneficial uses.
13. Radionuclides to be present in concentrations that exceed maximum contaminant levels specified in the California Code of Regulations, Title 22; that harm human, plant, animal or aquatic life; or that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.
14. Toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This applies regardless of whether toxicity is caused by a single substance or the interactive effect of multiple substances.

15. Violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Board pursuant to the CWA and regulations adopted thereunder.
16. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
17. The fecal coliform concentration in any 30-day period to exceed a geometric mean of 200 MPN/100 mL or cause more than 10 percent of total samples to exceed 400 MPN/100 mL.
18. Upon adoption of any applicable water quality standard for receiving waters by the Regional Board or the State Board pursuant to the CWA or regulations adopted thereunder, this permit may be reopened and receiving water limitations added.

**D. Discharge Requirements for Low Threat Discharges**

1. The following discharges are authorized by this Order provided they do not contain significant quantities of pollutants, and they do not exceed 0.25 mgd unless four months or less in duration.
  - a. Well development water including testing or start up;
  - b. Construction dewatering;
  - c. Pump/well testing;
  - d. Pipeline/tank pressure testing;
  - e. Pipeline/tank flushing or dewatering;
  - f. Condensate discharges;
  - g. Miscellaneous water supply system discharges; and,
  - h. Other miscellaneous dewatering/low threat discharges.
2. Collected screenings and other solids removed from piping, tanks, and other equipment prior to discharge shall be disposed of in a manner consistent with Title 23 of the California Code of Regulations Chapter 15, Division 3.
3. The Discharger shall prepare a Pollution Prevention, Monitoring, and Reporting Plan (PPMRP) for Low Threat Discharges, to address all expected discharges. The PPMRP should address or include the following:

- a. The PPMRP shall provide a general description of the raw water supply and distribution systems, types and frequency of potential discharges, potential discharge locations, possible pollutant types, possible flow rates and duration, and receiving waters.
- b. The Plan shall identify best management practices (BMPs) for each type of discharge that will be used to prevent or minimize the discharge of pollutants. Where appropriate, BMPs shall include, but not be limited to the following.
  - i. Prior to testing or flushing of empty tanks and pipelines, solid wastes shall be removed for proper disposal.
  - ii. Erosion and sedimentation control practices at discharge point(s) shall be implemented, if necessary. Discharges shall adhere to applicable State and local recommended procedures for erosion and sediment control.
  - iii. The discharge of waters must be controlled to the lowest possible rate to minimize potential impacts on aquatic life and to reduce erosion. Adequate dewatering structures and velocity dissipation devices shall be used when necessary to prevent and minimize erosion, stream scouring, increases in turbidity, and any other potential damage to receiving waters. Such devices may include splash pads, straw bales, silt fences, and vegetated buffer zones. The discharge shall not cause downstream flooding conditions.
  - iv. Discharges shall be conducted to avoid potential pollution to private or public water wells.
  - v. Dechlorination methods shall be used to assure that discharges to surface waters do not contain a chlorine residual in excess of 0.02 mg/L.
  - vi. The Discharger shall evaluate the need for treatment of low threat waters before discharge to meet the effluent limitations and requirements of this Order. Possible treatment technologies to evaluate include filtration, settling ponds, and/or pumping to upland areas.
- c. Develop a representative sampling and monitoring program
  - i. The Pollution Prevention, Monitoring, and Reporting Plan for Low Threat Discharges shall include a monitoring schedule for low threat discharges. The plan shall include the following provisions:
    - The discharge (rate of flow and duration) shall be estimated for all discharges.

- Sampling and analyses are not required for every dewatering water and other low threat discharge, if the Discharger can provide reasonable assurance that discharges will comply with the prohibitions and limitations of this Order. However, a sampling and analysis program shall be developed and implemented to monitor a representative selection of low threat discharges to verify that the discharges comply with this Order.
- When reasonable assurance cannot be provided that a discharge will comply with the prohibitions and limitations of this Order, at least one sample of the discharge shall be collected per day at a location prior to its entry into a receiving body of water. The sample shall be collected to reflect the character of the discharge during the first 1,000 gallons of the discharge. This sample shall be analyzed for chlorine and settleable and suspended solids.
- When reasonable assurance cannot be provided that a discharge will comply with the prohibitions and limitations of this Order, and the discharge will be greater than 50,000 gallons, at least two samples shall be collected per day at a location prior to its entry into a receiving body of water. Samples shall be collected to reflect the character of the discharge during the first and last 1,000 gallons of the discharge. These samples shall be analyzed for chlorine and settleable and suspended solids.
- When reasonable assurance cannot be provided that a discharge will comply with the prohibitions and limitations of this Order, observations of the discharge and of the receiving water shall be made and recorded on a daily basis and reflect the worst-case conditions observed in terms of: floating or suspended matter, discoloration and turbidity, erosion, odors, films, sheens, and other potential nuisance conditions.

d. Records and Reporting

- i. The Discharger shall make a record of each discharge event. The record shall include: the date, time, location, and duration of the discharge event; source of the water being discharged; a measurement or estimate of the total flow volume; observations as to the appearance of the discharge and erosion that resulted; best management practices that were used; and analyses performed, if any. When analytical results are received, they shall be included in the record.
- ii. Analyses and observations shall be recorded and reported to the Regional Board in a timely manner within the monthly Discharge Monitoring Reports. Reporting shall also identify any violations of this Order, corrective action steps taken to comply with the Order, and complaints received from neighbors or other interested parties.



- e. The PPMRP shall be revised and updated as necessary to reflect applicable changes in the Discharger's practices.
4. The Discharger shall meet all other requirements and conditions of this Order.

#### **E. Sludge Handling and Disposal**

1. Screenings, sludges, and other solids collected and generated on site shall be disposed of in a manner approved by the Regional Board and consistent with *Consolidated Regulations for Treatment, Storage, Processing, or Disposal of Solid Waste* as set forth in Title 27, Division 2, Subdivision 1 of the California Code of Regulations.
2. Any proposed change in sludge use or disposal practices shall be reported to the Regional Board at least 90 days in advance of the change.
3. **Within 180 days** of the date this Order is adopted, the Discharger shall review and update its existing Sludge Disposal Plan, and submit it to the Regional Board. The Updated plan shall describe:
  - a. Sources and amounts of sludge generated annually.
  - b. Location(s) of on site storage and a description of the containment area.
  - c. Plans for ultimate disposal. For landfill disposal include the Regional Board's waste discharge requirement numbers that regulate the particular landfill; the present classification of the landfill; and the name and location of the landfill. For land application, include the location of the site; the Regional Board's waste discharge requirement numbers that regulate the site; the anticipated sludge application rate in lbs/acre/year (specify wet or dry); and the land use.
  - d. Proposed frequency and time schedule for removing sludge from the site.

#### **F. Ground Water Limitations**

1. The discharge shall not cause the underlying groundwater to be degraded.

#### **G. Provisions**

1. The Discharger shall comply with *Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES)* (February 2004), which are a part of this Order. This attachment and its individual provisions are referred to as "Standard Provisions."
2. The Discharger shall comply with the attached Monitoring and Reporting Program, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.

If requested by U.S. EPA, the Discharger shall complete and submit Discharge Monitoring Reports. The submittal date shall be not later than the submittal date specified in the Monitoring and Reporting Program.

3. If applicable, the Discharger shall comply with the requirements of Division 20, Chapter 6.67 of the Health and Safety Code, known as the Aboveground Petroleum Storage Act. These requirements include preparation of a Spill Prevention Control and Countermeasure Plan in accordance with 40 CFR Part 112.

4. **Compliance Schedule for Copper**

This Order contains effluent limits based on water quality criteria contained in the CTR for copper. The Discharger shall complete and submit a justification for interim limits and a compliance schedule within 90 days of the date this Order is adopted. Justification for interim limits and compliance schedules shall include all items specified in Paragraph 3, items (a) through (d), of Section 2.1 of the SIP. If proper justification for interim limits and a compliance schedule is not completed and submitted by the Discharger, final water quality based effluent limitations for copper shall become effective immediately after 90 days from the date this Order is adopted. If adequate justification for interim limits and a compliance schedule is submitted for copper, and interim effluent limits become effective, final water quality based effluent limits for this pollutant shall not become effective until 5 years after the date this Order is adopted. As these compliance schedules are greater than one year, the Discharger shall submit semi-annual progress reports on **15 January** and **15 July** of each year until the Discharger achieves compliance with the final water quality based effluent limits for copper.

**Compliance Schedule for Copper**

<b>Interim Requirement</b>	<b>Completion Date</b>
1. Identify potential sources by water quality monitoring of raw water, product water at various stages of treatment, and the various wastewater streams.	1 year after the date this Order is adopted.
2. Prepare a Pollutant Minimization Plan	2 years after the date this Order is adopted.
3. Implement pollutant minimization measures and evaluate treatment upgrades necessary to achieve compliance with final limitations.	3 years after the date this Order is adopted.
4. Implement selected WWTP operational measures and/or treatment upgrades. Final effluent limits become effective.	5 years after the date this Order is adopted.

5. The Discharger shall conduct the monitoring and reporting specified in the attached Monitoring and Reporting Program. If sufficient information is collected and indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numerical water quality standard, then this Order

may be reopened to include effluent limit(s) to achieve water quality standards.

Additionally, if pollutants are detected in discharges from the Discharger's facility, but insufficient information exists to establish an effluent limit or determine if an effluent limit is necessary, the Discharger may be required to conduct additional monitoring to provide sufficient information.

6. The Discharger shall conduct the chronic toxicity testing specified in the Monitoring and Reporting Program. If the testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a workplan to conduct a Toxicity Reduction Evaluation (TRE) and, after Regional Board evaluation, conduct the TRE. This Order will be reopened and a chronic toxicity limitation and/or limitations for the specific toxicants identified in the TRE shall be included. Additionally, if a chronic toxicity water quality objective is adopted by the State Board, this Order may be reopened.
7. This Order expires on \_\_\_\_\_ **2009** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than **180 days** in advance of such date in application for renewal of waste discharge requirements if it wishes to continue the discharge.
8. In the event of any change in control or ownership of land or waste discharge facilities, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Regional Board.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the succeeding owner or operator's full legal name; the State of incorporation if a corporation; the name, address, and the telephone number of the persons responsible for contact with the Regional Board; and a statement that the new owner or operator assumes full responsibility for compliance with this Order. The application shall comply with the signatory paragraph of Standard Provision D.6. Continued discharge without submission of a request to transfer shall be considered an unauthorized discharge in violation of the California Water Code. Transfer will be approved or disapproved in writing by the Executive Officer.

I, THOMAS R. PINKOS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on \_\_\_\_\_ 2004.

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THOMAS R. PINKOS, Executive Officer